LONGMONT WATER BOARD AGENDA

Monday, April 20, 2015

Service Center
1100 South Sherman Street
Longmont, CO 80501

3:00 p.m. – Water/Wastewater Large Conference Room

MEETING CALLED TO ORDER

1. ROLL CALL

2. APPROVAL OF PREVIOUS MONTH'S MINUTES

    a. March 16, 2015 – Water Board Regular Meeting

3. WATER STATUS REPORT

4. PUBLIC INVITED TO BE HEARD AND SPECIAL PRESENTATIONS

5. AGENDA REVISIONS AND SUBMISSION OF DOCUMENTS

6. DEVELOPMENT ACTIVITY

    a. Development Activity Requiring Water Board Action
        i) None

    b. Development Activity Submitted for Water Board Information Only
        i) None

7. GENERAL BUSINESS

    a. City of Longmont's 2015 Water Supply & Drought Management Plan
    (Staff will present Water Board with the proposed plan for 2015)
    Staff Contact: Wes Lowrie (303) 651-8814,
    wes.lowrie@longmontcolorado.gov

8. ITEMS FROM STAFF

   a. Monthly Legislative Report (Staff will provide the Board with an update on selected 2015 legislative bills)
   Staff Contact: Nelson Tipton (303) 651-8365,
   nelson.tipton@longmontcolorado.gov

   b. Windy Gap Firming Project (Staff will provide a verbal update to the Board regarding this project)
   Staff Contact: Ken Huson (303) 651-8340,
   ken.huson@longmontcolorado.gov

9. ITEMS FROM BOARD

   a. Review of Major Project Listing and Items Tentatively Scheduled for Future Board Meetings.

10. INFORMATIONAL ITEMS AND WATER BOARD CORRESPONDENCE

11. ITEMS TENTATIVELY SCHEDULED FOR FUTURE BOARD MEETINGS

- Cash-in-Lieu Review (March, June, September, December)

12. ADJOURN

If you need special assistance to participate in a Water Board meeting, please contact Cindy Sater at (303) 651-8817 in advance of the meeting to make arrangements.

WATER BOARD MINUTES
March 16, 2015

Service Center Conference Room
1100 S. Sherman Street
Longmont, CO 80501

REGULAR MEETING

The March 16, 2015 meeting of the Longmont Water Board was called to order by Chairman Bruning at 3:02 p.m. at the Service Center Water Conference Room.

1. ROLL CALL

Board Members Present: John Bruning, Renee Davis and Dave Swenson. Board member, Todd Williams arrived at 3:03 p.m.

Board Member Excused: John Caldwell

City Staff Members Present: Ken Huson, Kevin Boden, Wes Lowrie, Nelson Tipton and Cindy Sater

2. APPROVAL OF PREVIOUS MONTH'S MINUTES

A motion was made by Board member Williams to approve Water Board's February 23, 2015 minutes as written; motion was seconded by Board member Swenson. Motion passed 4-0.

3. WATER STATUS REPORT

On behalf of the basin Water Commissioner, staff member, Wes Lowrie, gave the current water status report. The estimated flow today at the Lyons gage is 27.7 cfs with an historical average of 19 cfs. Ralph Price Reservoir at Button Rock Preserve elevation was at 6,381.8 feet, equaling 12,459 acre feet, down 3,750 acre feet. There are no calls on the St. Vrain Creek or the South Platte River. Reservoirs in the St. Vrain system were 75 percent full at the end of February. There is currently 20 cfs being released from Ralph Price Reservoir. Snow pack in the Upper Colorado Basin is at 91%, the South Platte Basin is at 101% and the St. Vrain Basin is at 108% of average.

4. PUBLIC INVITED TO BE HEARD AND SPECIAL PRESENTATIONS

There was no public in attendance.

5. AGENDA REVISIONS AND SUBMISSION OF DOCUMENTS

No additional agenda revisions or documents were submitted.

6. DEVELOPMENT ACTIVITY

A. Somerset Meadows Subdivision Filing 4 Final Plat

Staff member, Wes Lowrie reviewed the development activity for March. The 10.106 acre portion of the Weibel-Duvall Annexation was originally reviewed by Water Board February 23, 1998. There is a remaining raw water requirement of 18.908 acre feet. The developer will satisfy the remainder of the deficit by transferring non-historical Lake McIntosh water rights.

Motion was made by Board member Williams and seconded by Chairman Bruning to forward to City Council the development activity listed above as described in the Water Board packet. Motion passed 4-0.

7. GENERAL BUSINESS

A. Cash-in-Lieu Review

Staff member, Wes Lowrie reviewed native basin water rights, construction costs for new water supply and C-BT allotment unit transfer costs. Ken commented that the Windy Gap Project new construction cost estimates will be revised when the construction costs are updated. Discussion followed. Water Board concurred that there were no significant reasons at this time for Longmont to make a change to the current cash in lieu price of $10,800.00 per acre-foot.

B. Monthly Legislative Report

Staff member Nelson Tipton provided a list of 2015 water related legislation bills that the City of Longmont is currently tracking and discussed the status of each with Water Board. Discussion followed on the four additional water-related bills that were added to Water Board's tracking list during March.

- HB15-1222 – Concerning authorization of pilot projects for voluntary transfer of water efficiency savings to Colorado Water Conservation Board for instream use purposes in water divisions that include lands west of the continental divide. (Staff recommended monitoring)

- HB15-1247 – Concerning fees collected by the State Engineer for review of dam safety. (Staff recommended opposing)

  Motion was made by Board member Swenson, and seconded by Board member Davis to recommend forwarding Water Board's recommendation to City Council opposing HB15-1247. Motion passed 4-0.

- HB15-1259 – Concerning amendments to the fees associated with water pollution control. (Staff recommended monitoring)
- SB15-183 – Concerning the quantification of historical consumptive use of water right. (Staff recommended support)

  Motion was made by Board member Williams and seconded by Board member Swenson to recommend forwarding Water Board's recommendation to City Council supporting SB15-183. Motion passed 4-0.

8. ITEMS FROM STAFF

A. Monthly Water Supply Update

Staff member Wes Lowrie reviewed Northern Water's SnoWatch report with Water Board. The snow pack summary today for the South Platte River Basin is at 101%, the St. Vrain River Basin is at 108%, and the Upper Colorado River Basin is at 91%. Snowfall occurring during March will greatly influence the overall averages of all river basins for this coming year. Next month's snowfall values will allow Water Board to determine the outlook for the coming water year and an indication for recommending the City's drought response plan level. St. Vrain basin storage reservoirs were at 75% of capacity at the end of February influenced by Highland Reservoir No. 2 being down for repairs with expectations to begin filling at the end of this week and Ralph Price Reservoir being down for flood remediation work.

B. Windy Gap Firming Project

Staff member Ken Huson updated Water Board on the status on various components of the Windy Gap Firming Project. Most major items have been negotiated and participants have signed them, except the Colorado River Water Conservation District (CRWCD) which has requested entering into a separate Shoshone outage protocol agreement. The US Army Corp of Engineers 404 permit has been previously submitted and is now pending issuance of the State's 401 water quality certification which is expected to be submitted by the end of this month. The project schedule reviewed by Water Board last month has not been revised. The Municipal Sub-District will file for an amended decree with Water Court this spring pending approval of the CRWCD. The history of both the Windy Gap project and Windy Gap Firming Project were reviewed with Water Board. In addition, water supply planning documents including the Raw Water Master Plan and Future Water Demand Evaluation were reviewed. Staff also presented Water Board updated demand data since the completion to these previous studies.

9. ITEMS FROM BOARD

A. Review of Major Project Listing & Items Tentatively Scheduled for Future Board Meetings

Water Board's major project listing included in the packet was reviewed.

B. Input from Water Board Members

Chairman Bruning spoke about a Big Thompson Watershed Coalition seminar he attended where consultants presented all expenses considered for flood restoration in that basin.

Chairman Bruning shared a March 16, 2015 *Denver Post* editorial regarding letting residents use rooftop runoff water.

10. INFORMATIONAL ITEMS AND WATER BOARD CORRESPONDENCE

Informational items and correspondence were included in the Water Board packet.

11. ADJOURNMENT

There being no further business to come before Water Board, Chairman Bruning asked for a motion for adjournment.

A motion for adjournment was made by Board member Williams; the motion was seconded by Board member Swenson. Motion passed 4-0.

The meeting was adjourned by Chairman Bruning, at 4:20 p.m.

The next regular meeting of the Longmont Water Board will be held on April 20, 2015, at 3:00 p.m. at the Service Center, 1100 South Sherman Street, Longmont, CO 80501.

_____ _____

John Bruning, Water Board Chair **Date**

_____ _____

Cindy Sater, Recording Secretary **Date**

Meeting Date: **April 20, 2015**

Item Number: **6**

Type of Item: **Development Activity**

From: **Wes Lowrie, Water Resources Analyst, (303) 651-8814**
wes.lowrie@longmontcolorado.gov

As the Board will recall, City Council approved Ordinance O-2012-73 on October 23, 2012 which requires Water Board action during annexation review and when further raw water deficit satisfaction is required pursuant to a particular development activity. Listed below are two development activity categories; Development Activity Requiring Water Board Action and Development Activity Submitted for Water Board Information Only.

6a Development Activity Requiring Water Board Action
i) None

6b Development Activity Submitted for Water Board Information Only
i) None

Meeting Date: April 20, 2015

Item Number: 7a

Subject: **Update on City of Longmont's 2014/2015 Water Supply & Drought Management Plan**

Type of Item: General Business

From: Wes Lowrie, Water Resources Analyst (303-651-8314)
wes.lowrie@longmontcolorado.gov
Ken Huson, Water Resources Manager (303-651-8340)
ken.huson@longmontcolorado.gov

Suggested Action: Recommend that City Council accepts the 2015/2016 Water Supply & Drought Management Plan and to remain at a Sustainable Conservation Level Drought Response.

Staff will review the attached May 5, 2014 Draft Council Communication, 2015/2016 Water Supply & Drought Management Plan, City's Guiding Water Principles, South Platte River Basin Snowpack Summary, and Colorado River Basin Snowpack Summary during Water Board's April 20, 2015 Regular meeting.

Staff will ask Water Board for a recommendation to City Council to accept the 2015/2016 Water Supply & Drought Management Plan and make a recommendation concerning the appropriate drought level response, including suspending the surplus water rental program through the Saint Vrain & Left Hand Water Conservancy District.

CITY COUNCIL COMMUNICATION

MEETING DATE: May 5, 2015 **ITEM NUMBER:**

SECOND READING: N/A

TYPE OF ITEM: General Business

PRESENTED BY: Dale Rademacher, Public Works & Natural Resources General Manager, 303-651-8355
Ken Huson, Water Resources Manager, 303-651-8340
Wes Lowrie, Water Resources Analyst, 303-651-8814

SUBJECT/AGENDA TITLE: Adoption of City of Longmont's 2015/16 Water Supply and Drought Management Plan

EXECUTIVE SUMMARY:
Water Board and staff annually present an update on the City's water supply and present for City Council consideration a Water Supply and Drought Management Plan. Longmont's current water supply and drought management plan, adopted on May 6, 2014, calls for the City to operate under a sustainable conservation level at our current water supply ratio. Staff currently recommends that the City remain at the sustainable water conservation level. Currently staff is not recommending the rental of surplus water other than its continued lease of water to the Saint Vrain Valley School District. It is expected that Longmont will have sufficient potable municipal water supplies for 2015 and 2016 to meet the demands of its customers.

In consultation with Water Board, PW&NR staff has prepared the attached 2015/16 Water Supply and Drought Management Plan for City Council's consideration.

Recommendation:
At its April 20th Water Board meeting, the Board reviewed the attached 2015/16 Water Supply and Drought Management Plan and _____. Staff recommends approval of the 2015/16 Water Supply and Drought Management Plan, to remain at a Sustainable Water Conservation Level, and suspend the surplus water rental program through the Saint Vrain Water Conservancy District until directed by Council to do so.

COUNCIL OPTIONS:
1. Adopt 2015/16 Water Supply and Drought Management Plan as presented.
2. Adopt a revised 2015/16 Water Supply and Drought Management Plan.
3. Do not adopt a plan at this time.

RECOMMENDED OPTIONS: Option 1.

FISCAL IMPACT & FUND SOURCE FOR RECOMMENDED ACTION: N/A

BACKGROUND

In an ongoing effort to inform the citizens and City Council about Longmont's projected available water supply and demand, staff first began preparing a formalized Water Supply & Drought Management Plan during the drought of 2002. This plan has been annually reviewed and adopted by City Council since that time. Also, on a monthly basis, staff reviews with the Longmont Water Board the City's current and projected water supply status.

Last year, Water Board recommended to City Council that the City remain at a Sustainable Conservation Level Drought Response. Council concurred with Water Board in May of 2014, and Longmont currently remains at that drought response level at this time.

The April 1st 2015 Natural Resources Conservation Service (NRCS) stream flow forecast for St. Vrain Creek at Lyons, for the period of April-September is 86% of average. The May 1st 2015 forecast is not yet available. Given the current weather conditions, staff is anticipating that the May 1st streamflow projection will be similar to the April 1st projection. If the NRCS information becomes available prior to Council's review of this item, staff will present that information during the May 5th meeting. Current St. Vrain Creek Basin area storage is at 75% of capacity. Average basin storage for this time of year is typically around 65% of capacity.

On April 10, 2015 the Northern Colorado Water Conservancy District Board set the Colorado Big-Thompson project (CBT) quota for this year at 70%. With that quota, Longmont's 2015 transbasin water supply is 14,820 acre-feet of water. It is possible the Northern Water Board could declare an additional supplemental quota in which case the City's transbasin water supply for 2015 would increase. The City's total water supply for 2015, after historical leaseback is deducted, is projected to be a minimum of 24,558 acre-feet.

Attached to this communication, as part of the 2015/16 Water Supply and Drought Management Plan, is an updated water supply forecast for 2015-2016. Tables A and B show the current projection for the City of Longmont's 2015 water supply to be 152% of demand, assuming a sustainable conservation level is maintained. In 2016, the City's water supply is projected to be at 144%, still at a sustainable conservation level. These percentages represent a conservative estimate of water rights available and assume the maximum amount of Colorado Big-Thompson Project water is available for carryover into the following years. These projection numbers are all within thresholds set for a sustainable conservation level.

Also during 2015, PW&NR staff will continue to implement demand management strategies outlined in the Water Supply & Drought Management Plan, as well as the Water Conservation Master Plan. While the City continues to have an adequate potable water supply, some water activities will be impacted by the current conditions. This includes surplus water rental normally occurring through a cooperative program with the Saint Vrain and Left Hand Water Conservancy District. Staff suggests Council consider suspending its surplus water rental program for 2015 so that should it become necessary for the City to utilize these particular water resources through its raw water system it would have the ability to do so.

SUMMARY

Staff will continue to monitor and update Council and the community on the City's water supply status. The current water supply and projected demands indicate that it would be appropriate for the City to remain at a Sustainable Water Conservation level.

ATTACHMENTS:

Proposed 2015/16 Water Supply & Drought Management Plan
Tables A & B for Drought Plan
City's Guiding Water Principles
South Platte & Upper Colorado River Basin Snowpack Summaries

City of Longmont
2015/2016 Water Supply & Drought Management Plan

Purpose:
The purpose of the City of Longmont's 2015/2016 Water Supply & Drought Management Plan is to manage the City's Water Supply and to anticipate, identify and respond to drought in the Saint Vrain Creek watershed area. This plan will evaluate the impact on raw water availability for the City of Longmont and recommend responses to the current water supply and demand forecast. This plan also formalizes the City's planning for future droughts.

Methodology and Responsibility:
The City of Longmont's Water Supply & Drought Management Plan will be managed by the Water Resources & Environmental Services Divisions of the Public Works & Natural Resources Department, referred to as Division. Indicators of drought, as outlined in this plan will be monitored by personnel in the Division. The Division will recommend appropriate action, guided by the response plan as outlined in this plan, for response to differing levels of drought.

Ralph Price Reservoir March 8, 2015

Definition of Drought:
A drought is typically defined as single or multiple consecutive water years with below average stream flow. For the purposes of drought response planning, the droughts of interest would only include those droughts that, because of severity, directly impact and stress raw water availability for the City of Longmont.

Revision Date: April 8, 2015

City of Longmont
2015/2016 Water Supply & Drought Management Plan

"Conserving our Water to Preserve our Quality of Life"

I. City of Longmont's Drought Supply Policy:

The City of Longmont's raw water drought supply policy is outlined in the Raw Water Master Plan. This plan describes the City's policy of using the 1-in-100 year drought recurrence interval as the basis of planning for the City's raw water supply. This drought interval is based upon a drought of approximately 7 years in length with a total Saint Vrain Creek watershed deficit of 237,000 acre-feet. This plan also describes drought indicators and potential forecasting methodologies to be used to predict drought and determine its severity and impacts on the City's raw water supply.

The Saint Vrain Creek has historically experienced drought conditions and will continue to do so in the future. The annual average measured flow in the Saint Vrain Creek at the Lyons gaging station for the period 1896 to 1982 was 93,000 acre-feet. After the addition of diversions from the creek above the Lyons gaging station, the estimated virgin flow for this period is 124,000 acre-feet. A drought of seven years in length, with a total deficit of 237,000 acre-feet, would result in a deficit of approximately 34,000 acre-feet per year.

During 2014, and following the September 2013 flood event, the Saint Vrain River Basin experienced average streamflow conditions as a result of average snowpack and rainfall. Water Board recommended and City Council concurred in May of 2014 to remain at a Sustainable Conservation Level Drought Response for 2014. As a result of the average stream flows during 2014 and contributions made from the September flood event, Longmont finished the 2014 irrigation season (October 31, 2014) with above average storage in its local reservoirs at 75% of capacity. Current projections are that by July 1, 2015 select reservoir storage will be approximately greater than 90% of full. During 2015 the Public Works & Natural Resources staff will continue to implement demand management strategies outlined in this plan. Water Resources staff will continue to pursue opportunities to exchange additional water to supplement the existing water supply.

Prior Water Data	2013	2014
Total Water Supply Available	22,893 acre-feet	21,640acre-feet
Total Treated Water Demand	16,036 acre-feet	15,506 acre-feet

Snow Pack as of April 1, 2015	South Platte River Basin	Colorado River Basin
	87%	77%

For 2015 Longmont expects to continue to utilize native basin water rights, trans-mountain water rights, and local storage water rights.

Description of Indicators and Forecasting Methods:

- **Natural Resources Conservation Service's Monthly Streamflow Forecast**
  Table A indicates how the Streamflow Forecast can be used to evaluate impacts upon Longmont's water rights on an average and dry basis. Based upon the streamflow forecast, the projected yield of direct flow and storage decrees will be used for calculation of raw water availability during drought conditions. This effort will focus on the April 1st and May 1st Streamflow forecasts as an indicator of drought in the upcoming irrigation season.

- **Natural Resources Conservation Service's Monthly Snowpack Survey**
  The Snowpack Survey will be used in validating and/or adjusting the Streamflow Forecasts. These surveys also provide real-time measurement of snowpack to assist in reviewing projections in the time between monthly streamflow forecasts.

- **Saint Vrain Creek Basin Reservoir Storage Levels**
  Total reservoir storage in the Saint Vrain Basin varies with the availability of water during the storage season (usually November through June). The total Saint Vrain Creek storage levels will be used in conjunction with target storage levels in Ralph Price Reservoir. When comparing storage levels in reservoirs with storage rights senior to Ralph Price Reservoir, water supply availability can be projected for the storage components of Longmont's water portfolio. An example of this information for Ralph Price Reservoir is shown in Table B.

- **Trans-Mountain Water Supply Availability**
  Colorado-Big Thompson Project (C-BT) Quota Declaration and Longmont carry-over of C-BT allocation from the previous year will be utilized in establishing trans-mountain water supply availability for 2015 and projections for later years. This trans-mountain water availability includes C-BT quota declarations, Upper Baldwin Ditch Replacement water, Carry-over C-BT water, Exchanged C-BT water, and Windy Gap water supplies. On November 1, 2013 the NCWCD Board set the initial 2015 quota declaration for the C-BT system at 50%. On April 10, 2015 an additional 20% declaration was made which resulted in combination with the other trans-mountain water supplies, of a total trans-basin water supply yield of 14,685 AF.

- **Raw Water Availability for City of Longmont**
  Raw water availability will be updated and revised by the Division staff to estimate Water Treatment Plant demands and projected raw water availability for Longmont. An example of 2015 raw water availability is included in Table A. Projected demand in this table is based upon a Sustainable Conservation Level drought response assumption.

- **City of Longmont Treated Water Demands Greater than Normal**
  As drought conditions occur, water use often increases and raw water availability decreases. Treated water demand projections will be adjusted in accordance with this expected increase. Actual use as the drought progresses will be included in the evaluation of projected water demands.

- **City of Longmont Water Supply Projections for Multi-year Drought Projections**
  As an additional tool in evaluating the current year drought response level, Division staff will complete a multiple year water supply evaluation. The current and next water year of that projection will be used to determine the drought response level for the City.

II. Description of Drought Supply Response Levels:

Division staff is responsible for monitoring drought indicators and forecasting raw water availability. The following guidelines will assist Division staff and Water Board in advising City Council in determining the appropriate course of action to undertake in varying degrees of drought intensity. These will serve as a guideline only, with the experience and year by year specific details also guiding the City's actions in any given drought scenario. The City Manager, with the advisement of Division staff, will have the power to declare a specific response level in the case of an emergency. Division staff will compare raw water supply with projected demand and monitor the storage levels in Ralph Price Reservoir and the Saint Vrain Creek Basin. If the combination of supply and available storage exceed projected demand by more than 135%, the City's water supply will not be considered in a drought scenario. The City will continue to take water conservation actions at all times, especially during years of below average streamflow.
Percent of water savings goal referred to hereafter shall be with respect to last year's actual demand.

Sustainable Conservation Level:
At the sustainable conservation level the City will continue to implement Best Management Practices to conserve the water resources of the City.

Target Water Savings Goal: Sustainable demand management at all times to insure reasonable water conservation practices are followed utilizing best management practices and that the overall goal of a 10% water savings as outlined in the Raw Water Master Plan is realized.

This level will include a projection of the following indicators:

- Storage volumes in Ralph Price Reservoir greater than target levels for the Level One Drought Response in Table B; and
- Raw water supply availability projections for the current and next water year at a level greater than **135%** of projected water demand.

Level One Drought Response Targets:
At Level One, conditions will moderately impact the City's supply vs. demand.

Target Water Savings Goal: Sufficient demand management, up to 10%, to insure demand does not exceed raw water availability.

This level will include a projection of the following indicators:

- Storage volumes in Ralph Price Reservoir lower than target levels in Table B.

- Raw water supply availability at a level of **120% - 135%** of projected water demand.

Level Two Drought Response Targets:
At Level Two, conditions will severely impact the City's supply vs. demand.

Target Water Savings Goal: 10% to25%

This level will include a projection of the following indicators:

- Storage volumes in Ralph Price Reservoir lower than target levels in Table B.
- Raw water supply availability at a level of **105% - 120%** of projected water demand.

Level Three Drought Response Levels:
At Level Three, conditions will critically impact the City's supply vs. demand.

Target Water Savings Goal: To be determined at time of level three drought, goal dependent upon drought severity and water savings needs.

This level will include a projection of the following indicators:

- Storage volumes in Ralph Price Reservoir lower than target levels in Table B.
- Raw water supply availability at a level less than **105%** of projected water demand.

III. Description of Drought Response Action Plans:

Sustainable Conservation Level:
Upon determining that actionable drought conditions do not exist for the City of Longmont, any or all of the following may be performed:

- Continue public information concerning impacts to the City of Longmont's water supply to encourage that best management practices (BMP's) are followed. The City will continually promote a public water conservation campaign. BMP's include but are not limited to:
    1. No water being wasted.
    2. Time of day watering restrictions, such as no unattended irrigation between the hours of 10:00 a.m. and 6:00 p.m., will be encouraged.
    3. Use soil amendments and mulch in conjunction with appropriate plant selections.
    4. Check and replace leaky faucets and toilets.
    5. Wash only full loads of cloths and dishes.

- Voluntary measures for raw water reduction in municipal and school use of water.
    1. Parks & Recreation will conserve water where possible and utilize BMP's.
    2. Golf courses will conserve water where possible and also utilize BMP's.
    3. School District will be encouraged to follow BMP's and conserve water where possible.

4. City owned facilities will strive to set the benchmark for water use practice.
5. Encourage all customers served by Longmont Water Utilities to implement BMP's for total water use.

- Division staff will prepare for implementing Level One policies in the event this level occurs. The Division will monitor drought response effectiveness, recommend adjustments, and report to public regularly. The Division will also continue training and assigning staff to monitor outdoor water use to insure sustainable conservation efforts are followed and prepare in the event that a Level One drought is determined.

Level One Drought Projection:
Upon determining a Level One drought exists, the City of Longmont may perform any or all of the following efforts, utilizing the actual previous year's water use as the base year for comparison purposes:

- Increase public information about the drought severity and review and enactment of appropriate conservation efforts. Conservation efforts are outlined in the City of Longmont's Water Conservation Master Plan. The City will promote a public water conservation campaign emphasizing moderately dry conditions existing at that time.

- Voluntary water conservation by service customers.
    1. Encourage all customers served by the Longmont Water Utilities to implement a ten percent (10%) reduction in water use from historical levels.
    2. Water users who normally use raw water, well water or other sources of water for irrigation will be requested to not increase use of water through the potable water system during drought emergencies.
    3. Irrigation class tap customers may be required to reduce demand by 10%.
    4. Community garden users, as well as private garden users, will be encouraged to implement a ten percent (10%) reduction in water use from historical levels.

- Mandatory measures for raw water reduction in municipal and school use of water.
    1. Parks & Recreation will conserve water where possible, resulting in a net 10% reduction of historical annual use. Voluntary reductions apply to municipally owned critical sports fields and parks.
    2. Golf courses will conserve water where possible, resulting in a net 10% reduction of historical annual use.
    3. School District irrigation water lease reduction as appropriate, resulting in a minimum of 10% reduction of historical annual use.
    4. Saint Vrain Creek Corridor Committee water lease reduced (or eliminated) to the extent that water is unable to be recaptured for use at the Water Treatment Plants.

5. All other municipal water use will be reduced by 10% (Building use, Fire dept. etc.) of historical annual use.

- Raw water leases and bulk water sales.
    1. Surplus water rental reduced or eliminated.
    2. Historic lease back of raw water reduced or eliminated.
    3. No water leases are guaranteed during a Level One drought (except by existing contracts). If leases are approved the City may elect to increase the lease rate to recover investment costs and to discourage non-essential uses.
    4. Bulk water permits will be reviewed for use and total demand on system. Normal use of water through bulk permits will be allowed, but use of fire hydrants for irrigation will not be allowed.

- In drought years, there are many uses of water that will change compared to use during average and above average water years. Following are some examples of these changes in that water usage:
    1. Use of water in Golden Ponds will gradually change from primarily piscatorial to supply. In a Level One drought, water levels in the west pond will be allowed to equalize with the middle pond, with use of that amount. In addition, if the level of Golden Ponds lowers, water will not normally be replaced in this facility until the drought ends.
    2. Union Reservoir water levels will be lower than normal, resulting in lowered ability to conduct late season recreational activities on the reservoir.

- Division staff will develop plans for implementing Level Two policies in the event this level occurs. The Division will monitor drought response effectiveness, recommend adjustments, and report to public regularly. The Division will also continue training and assigning staff to monitor outdoor water use in the event that a Level Two drought is determined.

- Time of day watering restrictions, such as no unattended irrigation between the hours of 10:00 a.m. and 6:00 p.m., will be evaluated for practicality of implementation.

Level Two Drought Projection:
Upon determining a Level Two drought exists, the City of Longmont may perform any or all of the following:

- Continue public information about the drought severity and enactment of increasing conservation efforts. Conservation efforts are outlined in the City of Longmont's Water Conservation Master Plan. The City will promote a public water conservation campaign emphasizing severely dry conditions. As part of the conservation strategies, the City has developed a conservation rebate program, which will provide rebates for purchase of low volume toilets to replace high volume toilets and water efficient front-loading clothes washers.

- Mandatory water conservation by service customers.

1. Require all customers served by Longmont Water Utilities, including community garden users, to implement a minimum ten percent (10%) reduction in water use.
2. Implement a formal mandatory watering program to be followed by customers.
3. No additional water use through the potable system to replace water normally used through raw water, well water or other water supply scenarios.
4. Irrigation class tap customers will be required to reduce demand by a minimum of 20%.

- Mandatory measures for raw water reduction in municipal and school use of water.
    1. Parks & Recreation water reductions at a level between 20% and 90% depending upon severity of drought and overall response to demand reductions. To the extent possible, the identified critical sports fields, trees and non-turf landscaped areas will continue to be irrigated with a 10% reduction in application of water.
    2. Golf course watering will be reduced between 20% and 90% depending upon severity of drought and overall response to demand reductions.
    3. School District irrigation water lease reduction at a level between 20% and 90% depending upon severity of drought and overall response to demand reductions.
    4. Saint Vrain Creek Corridor Committee water lease eliminated to the extent that water is unable to be recaptured for use at the Water Treatment Plants.
    5. All other municipal water use will be reduced to the maximum extent possible (Building use, Fire dept. etc.).

- Raw water leases and bulk water sales.
    1. Surplus water rental eliminated.
    2. Historic lease back of raw water reduced or eliminated.
    3. No water leases are guaranteed during a Level Two drought (except by existing contracts). If leases are approved, the City may elect to increase the lease rate to recover investment costs and to discourage non-essential uses.
    4. Bulk water permits will be reviewed for use and total demand on system. Normal use of water through bulk permits may be allowed, but use of fire hydrants for irrigation will not be allowed.

- Division staff shall develop plans for implementing Level Three policies, including mandatory water use reductions. The Division will monitor drought response effectiveness, recommend adjustments, and report to the public regularly.

- The Division will continue to train and assign staff in monitoring, issuing warnings and imposing penalties for water waste and violations of any permits and noncompliance with any water restrictions.

Level Three Drought Projection:
Upon determining a Level Three drought exists, the City of Longmont may perform any or all of the following:

- Continue public information about the drought severity and enactment of mandatory conservation efforts. Conservation efforts are outlined in the City of Longmont's Water Conservation Master Plan. The City will promote a public water conservation campaign emphasizing critically dry conditions.

- Mandatory Water Conservation by Service Customers.
    1. Mandatory water use reduction equal to projected water supply availability deficit for all customers, including community gardens, served by the Longmont Water Utilities. Outdoor watering restrictions will be set based upon severity of drought. Restrictions will result in severely cutting back or completely eliminating watering based upon severity of the Level Three drought.
    2. Water rates to be adjusted to provide clear financial incentive to limit outside water use using the increasing block structure. Adjust water rates to maintain revenue during the drought as needed.
    3. Impose a moratorium on new water taps.
    4. No additional water use through the potable system to replace water normally used through raw water, well water or other water supply scenarios.
    5. Irrigation class tap customers will be required to reduce demand by a minimum of 90%, or possibly eliminated.

- Mandatory measures for raw water reduction in municipal and school use of water. All outdoor watering of public facilities may be eliminated depending upon the severity of the drought at this level.
    1. Parks & Recreation water reductions, resulting in a reduction of 90 % of use. Minimal watering of critical sports fields and parks will occur. The primary intent of Parks and Recreation watering will be to maintain economic investments in non-turf landscaping, trees and municipal facilities. Field use will be restricted or eliminated to protect facilities as needed.
    2. Golf course watering will be limited to greens and tees.
    3. School District irrigation water lease eliminated.
    4. Saint Vrain Creek Corridor Committee water lease eliminated to the extent that water is unable to be recaptured for use at the Water Treatment Plants.
    5. All other municipal water use will be reduced to the maximum extent possible (Building use, Fire dept. etc.).

- Raw water leases and bulk water sales.
    1. Surplus water rental eliminated.
    2. Historic lease back of raw water eliminated.
    3. Bulk water permits and sale of water through fire hydrants will not normally be allowed. Hydrant use for irrigation will not be allowed.

- Division staff will continue to further develop plans for responding to the drought. The Division will monitor drought response effectiveness, recommend adjustments, and report to public regularly. Division staff will continue to monitor and enforce watering restrictions as necessary.

Website Links:

City of Longmont Public Works & Natural Resources Department:
http://www.ci.longmont.co.us/pwwu/index.htm

Snow Survey Data:
http://www.co.nrcs.usda.gov/snow/snow/

Reviewed by:

Longmont Water Board on April 20, 2015

TABLE A
CITY OF LONGMONT
WATER RIGHTS YIELDS
2015

revision date 04/14/2015

WATER RIGHTS	2002 ACTUAL RAW WATER USE AC-FT	2013 ACTUAL RAW WATER USE AC-FT	2014 ACTUAL RAW WATER USE AC-FT	2015 PROJECTED RAW WATER AVAILABLE AC-FT	2016 PROJECTED RAW WATER AVAILABLE AC-FT	2017 PROJECTED RAW WATER AVAILABLE AC-FT
1. CBT QUOTA DECLARATION	70%	60%	70%	70%	50%	50%
2. DIRECT FLOW WATER RIGHT DECREES	3309	4010	5264	6867	6811	6699
3. 1929 TRANSFER DECREES	1108	666	585	1584	1337	1272
4. PIPELINE DECREES	904	0	870	416	1854	1841
5. TRANSFERED RESERVOIR STORAGE DECREES	456	1194	0	1163	1163	1163
6. RESERVOIR STORAGE AVAILABLE FOR RELEASE	7366	4687	3381	3533	4222	3966
7. TRANSBASIN WATER RIGHTS	8715	18570	17411	14820	12277	12277
8. LESS CBT CARRYOVER BETWEEN YEARS	(940)	(2743)	(3117)	(2825)	(2825)	(2825)
9. LESS WATER RENTAL AND LEASES	(1497)	(3490)	(1688)	(1000)	(1000)	(1000)
10. TOTALS	19421	22893	22707	24558	23839	23393
11. DEMANDS AT LEVEL 1 DROUGHT RESPONSE	17217					
12. PERCENT OF SUPPLY VS DEMAND AT LEVEL 1 RESPONSE	**113%**					
13. DEMANDS AT SUSTAINABLE CONSERVATION LEVEL *		16036	15506	16126	16610	17108
14. PERCENT OF SUPPLY VS DEMAND AT SUSTAINABLE CONSERVATION LEVEL		**143%**	**146%**	**152%**	**144%**	**137%**
B1. NOVEMBER 1ST PROJECTED STORAGE				28000		
B2. DROUGHT LEVEL INDICATED BY WATER IN STORAGE				S		
B3. TO DATE IN-BASIN LONGMONT STORAGE (AC-FT)				27119		
B4. NUMBER OF MONTHS AVAILABLE TO MEET AVERAGE DEMAND				19		

* Projected water demands reflect previous water demand usage and consider long range weather forecasts, water conservation efforts, changes in treated water demands, economic forecasts and community growth.

TABLE B
RALPH PRICE RESERVOIR STORAGE
2015

	* DESIGN DROUGHT YEAR						
	1	**2**	**3**	**4**	**5**	**6**	**7**
Calendar Year	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Sustainable Conservation Level	>90%	>90%	>85%	>85%	>80%	>80%	>75%
Response Level One	75% - 90%	75% - 90%	70% - 85%	70% - 85%	65% - 80%	65% - 80%	60% - 75%
Response Level Two	60% - 75%	60% - 75%	55% - 70%	55% - 70%	50% - 65%	50% - 65%	50% - 60%
Response Level Three	< 60%	< 60%	< 55%	< 55%	< 50%	< 50%	< 50%

JULY 15, 2015 **PROJECTED** BUTTON ROCK STORAGE (AC-FT)	16197	**100%**
APRIL 14, 2015 **ACTUAL** BUTTON ROCK STORAGE (AC-FT)	13687	**85%**

City of Longmont Water Principles

2015 Legislative Year

- Support water policies that protect Colorado water resources.
- Support the constitutional doctrine of prior appropriation and the constitutional priority given to domestic water use.
- Support the inventorying and protection of Longmont's water rights.
- Support appropriate water conservation efforts by all users and effective long-term water resource management.
- Support appropriate coordination of municipal water use with agriculture, recreation and open space uses.
- Support federal and state financial aid programs assisting municipalities with the construction and improvement of water systems to protect and enhance the quality of water supplies to the public and to comply with federal and state mandates.
- Support State Legislation that enhances stream flow in Colorado rivers for the purpose of protecting Colorado aquatic and riparian areas.
- Recognize the special needs of smaller municipalities and encourage the federal government and the state to provide special financial assistance to smaller municipalities for water systems based on financial and health needs.
- All Colorado water users must share in solving Colorado's water resource problems with the costs to meet the water needs of water users being paid solely by those benefiting from the project or effort.
- The State of Colorado should provide assistance, when requested, for local water supply planning and assist in the implementation of consensus-based water resource solutions that respect local authorities, private property and water rights. Proper water supply planning should be required in conjunction with land use planning efforts.
- During the process of planning to meet future needs, water suppliers and utilities should explore full development of existing local water sources, consideration of new water supplies, and demand management, including water conservation as a demand management strategy in planning for future water supply.

- Additional water storage should be pursued through the improvement and rehabilitation of existing structures and the development of new structures. These activities should be accomplished with local consensus.

- The right of water rights owners to market their water rights must be protected. Colorado must fully explore flexible, market-based approaches to water supply management, including interruptible water contracts, water banking, in-state water leasing and groundwater recharge management.

- Longmont's Raw Water Policy calls for the transfer, for municipal use, of all historical water from lands being annexed to the City. The transfer of agricultural water outside of a City's planning area should be encouraged to be completed through leases or interruptible water supply contracts in order to preserve agriculture. Water leases should not preclude, but be in addition to purchases, to meet the water supply needs of municipalities.

- In the event that agricultural water is transferred, the transaction must adequately address the need for maintaining the existing tax base, protecting the remaining water rights in the area, and maintaining the proper stewardship of the land including revegetation and weed control.

- The need to develop additional water supplies to serve Colorado's growing population should be weighed against the recreational and environmental benefits served by preservation of instream flows. Longmont holds that the term "balance" should not imply evenly split, but rather is reflective of the specific conditions existing relative to additional water development projects.

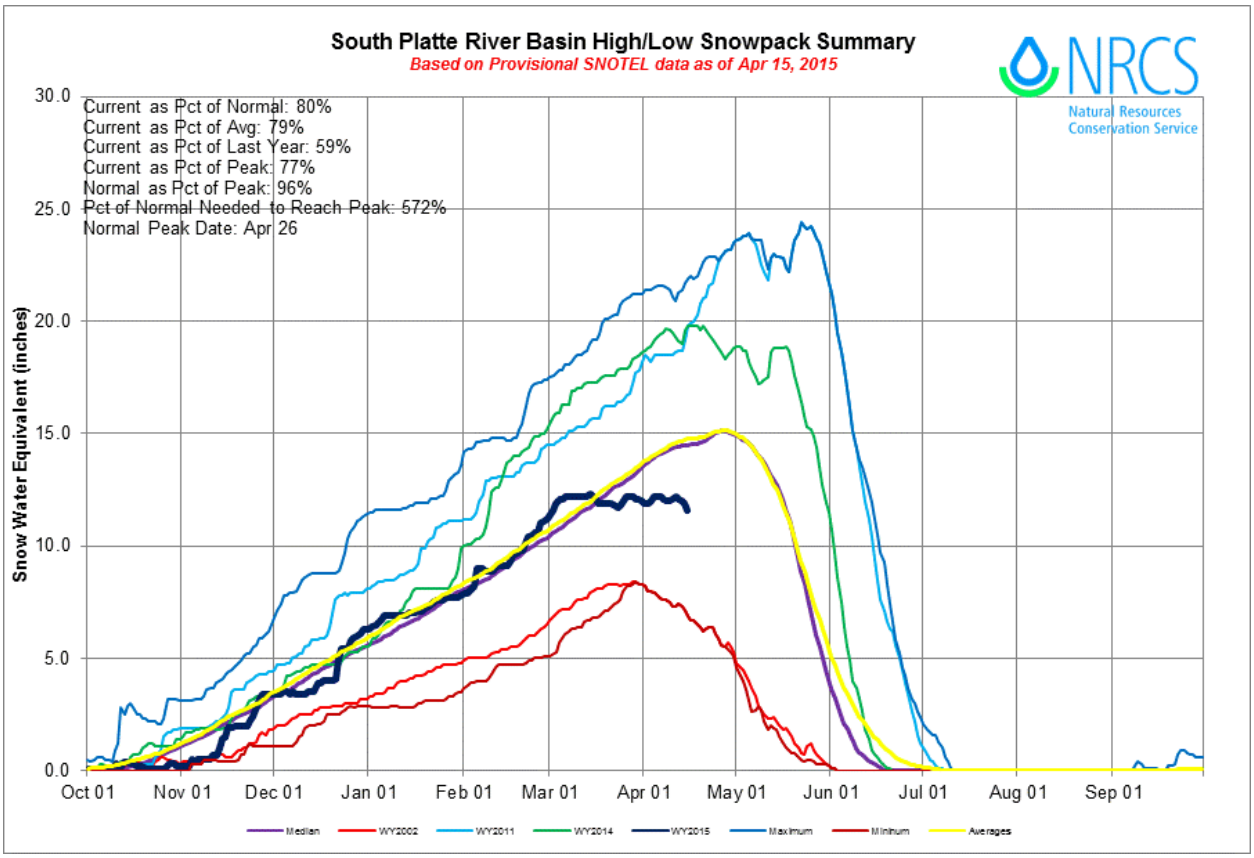
- Adverse economic, environmental, and social impacts of future water projects and water transfers must be minimized; unavoidable adverse impacts must be mitigated, including both the immediate and long-term impacts attributable to water transfers. Locally affected communities must have the opportunity to assist in determining appropriate mitigation for each project. The transfer of water from Northern Colorado to meet the water needs of the Denver metro area is a significant concern for Longmont.

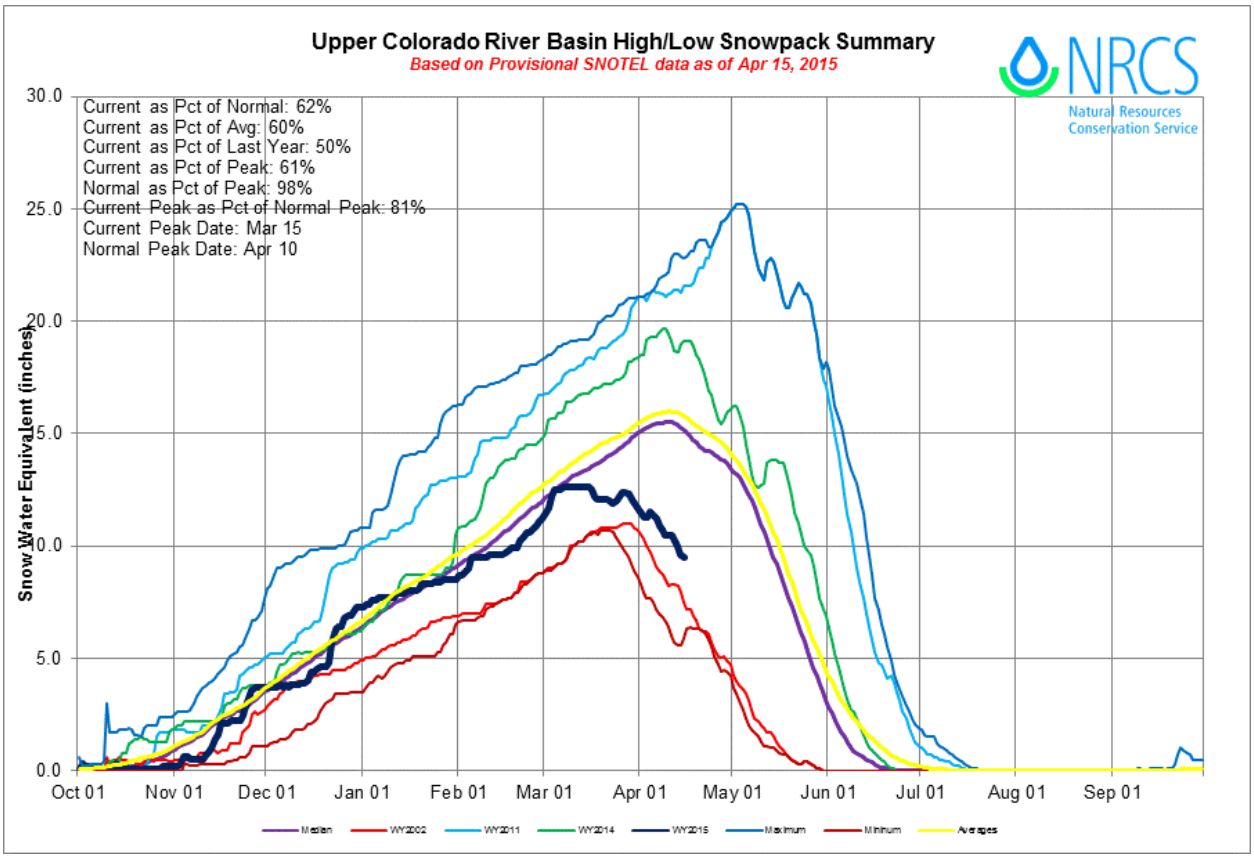
- Future water supply solutions must benefit both the area of origin and the area of use.

- Water conservation measures that do not injure other water rights should be aggressively pursued.

- There must be an ongoing, concerted effort to educate all Coloradans on the importance of water, and the need to conserve, manage, and plan for the needs of this and future generations.

- Prudent municipal water supply planning necessitates securing multiple, independent sources of raw water to create redundancy and flexibility of operations during emergency situations such as floods, forest fires, and droughts. Support State legislation that encourages such planning and fosters certainty of municipal water supplies. Oppose State Legislation that would place additional burdens or restrictions on the ability to develop multiple water sources.


South Platte River Basin High/Low Snowpack Summary
Based on Provisional SNOTEL data as of Apr 15, 2015
NRCS
Natural Resources Conservation Service
Current as Pct of Normal: 80%
Current as Pct of Avg: 79%
Current as Pct of Last Year: 59%
Current as Pct of Peak: 77%
Normal as Pct of Peak: 96%
Pct of Normal Needed to Reach Peak: 572%
Normal Peak Date: Apr 26
Snow Water Equivalent (inches)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Median
WY2002
WY2011
WY2014
WY2015
Maximum
Minimum
Averages


Upper Colorado River Basin High/Low Snowpack Summary
Based on Provisional SNOTEL data as of Apr 15, 2015
NRCS
Natural Resources Conservation Service
Current as Pct of Normal: 62%
Current as Pct of Avg: 60%
Current as Pct of Last Year: 50%
Current as Pct of Peak: 61%
Normal as Pct of Peak: 98%
Current Peak as Pct of Normal Peak: 81%
Current Peak Date: Mar 15
Normal Peak Date: Apr 10
Snow Water Equivalent (inches)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Oct 01
Nov 01
Dec 01
Jan 01
Feb 01
Mar 01
Apr 01
May 01
Jun 01
Jul 01
Aug 01
Sep 01
Median
WY2002
WY2011
WY2014
WY2015
Maximum
Minimum
Averages

Meeting Date: **April 20, 2015**

Item Number: **8a**

Subject: **Update on 2015 Water Legislation**

Type of Item: **Items from Staff**

From: **Nelson Tipton, Water Resources Analyst, 303-651-8365**
nelson.tipton@ci.longmont.co.us
Ken Huson, Water Resources Administrator, 303-651-8340
ken.huson@ci.longmont.co.us

Suggested Action: **Receive update concerning tracking of 2015 Water Legislation.**

The First Regular Session of the Seventieth Colorado General Assembly convened January 7, 2015 and is scheduled to adjourn May 6, 2015. Each month during the 2015 Legislative Session, staff will provide Water Board with a list of current water related Legislation Bills Longmont is tracking. For additional Legislative information visit Water Board's web page located at http://longmontcolorado.gov/departments/boards-committees-and-commissions/directory-of-boards-committees-and-commissions/water-board. From this page the Board can access the 2015 Legislative Guiding Water Principals, Prior Water Board Legislative Communications, prior Issue Briefs, City Managers' Legislative Affairs web page, link to the Colorado General Assembly home page.

Attached is a list of 2015 water related legislation bills City of Longmont is currently tracking. Status on these bills will be discussed with Water Board at its April 20, 2015 regular meeting. Throughout the 2015 Legislative Session, as additional water related bills are introduced, staff will add these bills to the attached list. For April 2015, staff added six additional water related bills to Water Board's tracking list, HB15-1278, SB15-198, SB15-202, SB15-212, SB15-224 and SB15-253. At this time, staff is recommending monitoring these bills.

Attachments:

Water Board's 2015 Water Related Legislation Tracking List

Bill Number	Description	City Position	Bill Status
HB15-1006	Concerning the establishment of a grant program for the management of invasive phreatophytes.	Monitor	House Committee on Agriculture, Livestock, & Natural Resources Refer Amended to Appropriations on 02-02-2015
HB15-1013	Concerning the implementation of recommendation number one set forth in the study of the south platte river alluvial aquifer prepared by the colorado water institute pursuant to house bill 12-1278.	Monitor	House Second Reading Passed with Amendments - Committee on 04-10-2015
HB15-1016	Concerning incentives for precipitation harvesting.	Monitor	Introduced In Senate - Assigned to Agriculture, Natural Resources, & Energy on 04-09-2015
HB15-1038	Concerning flexible water markets.	Monitor	Senate Committee on Agriculture, Natural Resources, & Energy Postpone Indefinitely on 03-05-2015
HB15-1093	Concerning limitations on requirements for the use of water-efficient plumbing fixtures.	Monitor	House Committee on State, Veterans, & Military Affairs Postpone Indefinitely on 02-04-2015
HB15-1159	Concerning the instream flow incentive tax credit for water rights holders.	Monitor	Introduced In Senate - Assigned to Finance on 04-09-2015
HB15-1166	Concerning the creation of a tributary groundwater monitoring network in the south platte river alluvial aquifer.	Monitor	Senate Committee on Agriculture, Natural Resources, & Energy Refer Unamended to Appropriations on 03-26-2015
HB15-1167	Concerning a study regarding the creation of additional water supplies in the south platte river basin.	Monitor	House Committee on Appropriations Postpone Indefinitely on 03-27-2015
HB15-1178	Concerning the state engineer's authority to allow well users to lower the water table in an area that the state engineer determines is experiencing damaging high groundwater levels.	Monitor	House Committee on Agriculture, Livestock, & Natural Resources Refer Amended to Appropriations on 03-02-2015
HB15-1222	Concerning an authorization of pilot projects for the voluntary transfer of water efficiency savings to the colorado water conservation board for instream use purposes in water divisions that include lands west of the continental divide.	Monitor	Senate Committee on Finance Postpone Indefinitely on 03-26-2015
HB15-1247	Concerning fees collected by the state engineer for review of dam safety.	Oppose	Introduced In House - Assigned to Finance on 02-25-2015
HB15-1249	Concerning amendments to the fees associated with water pollution control.	Monitor	House Committee on Appropriations Refer Amended to House Committee of the Whole on 04-10-2015
HB15-1278	Concerning the use of agricultural water rights to cultivate marijuana without the need for a change of water right.	Monitor	House Committee on Agriculture, Livestock, & Natural Resources Postpone Indefinitely on 04-06-2015
HJR15-1006	Concerning approval of water project revolving fund eligibility lists administered by the colorado water resources and power development authority.	Monitor	Senate Third Reading Passed - No Amendments on 02-09-2015

SB15-008	Concerning the promotion of water conservation in the land use planning process.	Monitor	House Third Reading Passed - No Amendments on 03-31-2015
SB15-010	Concerning augmentation requirements for wells withdrawing water from the dawson aquifer.	Monitor	Governor Signed on 03-13-2015
SB15-017	Concerning the appellate process governing a district court's review of final agency actions concerning groundwater.	Monitor	Senate Committee on Judiciary Postpone Indefinitely on 02-04-2015
SB15-055	Concerning state engineer administration of tailwater ditches	Monitor	Governor Signed on 03-26-2015
SB15-064	Concerning limits that the basic tenets of colorado water law place on the ability of certain federal agencies to impose conditions on a water right owner in exchange for permission to use federal land	Monitor	House Committee on State, Veterans, & Military Affairs Postpone Indefinitely on 03-16-2015
SB15-075	Concerning the ability to irrigate not more than one acre of 102 crops from a well	Oppose	Senate Committee on Agriculture, Natural Resources, & Energy Postpone Indefinitely on 02-04-2015
SB15-084	Concerning a prohibition on reducing the quantification of a water right's actual historical use in a change of water right.	Monitor	Senate Committee on Agriculture, Natural Resources, & Energy Postpone Indefinitely on 02-11-2015
SB15-183	Concerning the quantification of the historical consumptive use of a water right.	Support	House Second Reading Passed - No Amendments on 04-10-2015
SB15-198	Concerning modifications to the colorado waterconservation board's fallowing pilot program, and, in connection therewith, expanding the program toallow an agricultural water right owner to lease an agricultural water right for temporary agricultural, environmental, industrial, or recreational use.	Monitor	House Third Reading Passed - No Amendments on 04-02-2015
SB15-202	Concerning the regulation of water conditioning appliances pursuant to the plumbing code.	Monitor	Introduced In House - Assigned to Local Government on 03-23-2015
SB15-212	Concerning a determination that water detention facilities designed to mitigate the adverse effects of storm water runoff do not materially injure water rights.	Monitor	Introduced In Senate - Assigned to Agriculture, Natural Resources, & Energy on 03-12-2015
SB15-224	Concerning a permitting exemption for systems that remove groundwater from soils that are adjacent to foundations.	Monitor	Senate Committee on Agriculture, Natural Resources, & Energy Witness Testimony and/or Committee Discussion Only on 03-26-2015
SB15-253	Concerning the funding of colorado water conservation board projects, and, in connection therewith, making an appropriation.	Monitor	Introduced In Senate - Assigned to Agriculture, Natural Resources, & Energy on 03-27-2015

Item Number: **9a**

Subject: **Review of Major Projects Listing and Items Tentatively Scheduled for Future Board Meetings**

Type of Item: **Informational**

From: **Water Board**

Suggested Action: **N/A**

Attached is a copy of the most recent Water Board project status report. Please note the report now includes expected future review date information for each item.

WATER BOARD PROJECT STATUS REPORT

	ITEM	MOST RECENT WATER BOARD REVIEW DATE	PROJECTED NEXT WATER BOARD REVIEW DATE	MOST RECENT ACTION TAKEN AND/OR PROPOSED FUTURE ACTION
1	Union Reservoir Enlargement Land Acquisition Program	December 20, 2010	As Needed	Acquisition of Bogott property December 2010.
2	Water Supply and Drought Management Plan	April 21, 2014	April 20, 2015	2014 Plan approved by City Council in May 2014. Water Board recommended Sunstainable Conservation Level be followed.
3	Windy Gap Firming Project	March 16, 2015	May 18, 2015	USBR Permit and ROD issued December 2014. Review of Longmont's participation level for the design phase will occur over February to June 2015.
4	Water Legislation & Guiding Water Principles	March 16, 2015	May 18, 2015	Review of current 2015 legislation issues presented and discussed.
5	Cash-In-Lieu Review	March 16, 2015	June 15, 2015	Currently at $10,8000 per Acre-Foot. Resolution R-2014-51.
6	Button Rock Preserve & Forest Stewardship	January 26, 2015	January 25, 2016	2014 Annual update was presented to Water Board January 26, 2015.

Tentative Future Event Schedule

Event	Date
Spring City of Longmont Raw Water System Tour	June 12, 2015
Fall City of Longmont Raw Water System Tour	September 11, 2015

Water Board Member Terms

John Caldwell - 2015
John Bruning - 2016
Todd Williams - 2017
David Swenson - 2018
Renee Davis - 2019

Updated: April, 2015

Meeting Date: **April 20, 2015**

Item Number: **10**

Type of Item: **Informational Items & Water Board Correspondence**

Attached are information items and Water Board correspondence.

March 2015

Public Works & Natural Resources

Treatment Operations

MONTHLY NEWSLETTER

Instrumentation & Controls

ETS Firewall Collaboration Project

We, in the Treatment Operations group, can be considered control freaks. Whether is it controlling the balance of flows, recycle streams and aeration applied to the activated sludge process at the WWTP, or controlling the raw water blend and chemical dosages at Nelson-Flanders, we are always doing our best to be in control of our facilities. So when a part of the process that we rely on heavily is affected and it's not something we have the expertise to tackle, we call in experts for support. In this particular case, the experts were Kurt Headrick and the ETS team.

The goal was to improve our SCADA security by using firewalls for protection as well as allowing a login to the SCADA system from any facility and having all of this handled through the city's domain. As you can imagine, we are not experts in the realm of domains or firewalls, so we turned it over to Kurt to devise a solution and he did just that. He and his team were able to merge our SCADA security system into the city's domain controller, which allowed us to have one password for all sites, including remote access.

Kurt led the firewall project as well as the addition of domain controllers at both treatment plants which allowed us to have redundancy, provide protection and have full confidence in our security system. What we ended up with was a finished product that we can rely on and be proud of.

The solutions to our goals and issues were not simple and took careful planning and execution because of the criticality of our treatment plants consistent operation. There were problems that arose that were difficult and required significant troubleshooting, but Kurt and the ETS team never gave up and Treatment Operations now has a SCADA system that has never been safer or more reliable. Thanks to Kurt and all of those in ETS that supported this unique collaboration project.

Contributed by Nick Ehrlich

Wastewater Treatment

Aeration Basin Valve Exercising

To control the flow pattern on the activated sludge process, the City of Longmont Wastewater Treatment Plant uses sluice and butterfly gates. There are 26 sluice gates in total. The gates are operated periodically for aeration-basin cleaning and on the rare occasion when the flow pattern needs to be changed; such as the 2013 flood. To keep the gates operating properly, operations staff will be exercising the gates every 4 months.

Ops started exercising the gates on March 17, 2015 and was able to get them all completed by the 18th. The planning started weeks before the job was completed and an SOP was drafted outlining the process. At the same time, maintenance staff had to order a new special drill to replace one that stopped working. Exercising consists of greasing the zerk fittings; cleaning the stem with a wire-wheel; spraying the stem with white grease; and running the gate up and down with the drill. To exercise some of the gates, we were required to put on a body harness and fall protection gear. Special consideration was taken to sequence gates in a manner to prevent any of the basins from short-circuiting and/or overfilling. Of the 26 sluice gates, 24 were completed; one of the gates is exercised monthly during the diversion, and on the other gate the concrete used to support the brackets started cracking so a work request was created to repair the issue. Another gate could only be opened halfway, so another work request was submitted on that one.

The process of exercising the gates was completed without any major complications mostly due to the weeks of planning and the existing preventative maintenance program associated with all the equipment. This procedure won't eliminate all the problems we encounter in the future, but should improve the reliability of gate operations when changes are needed.

Contributed by Cuong Le

Treatment Operations

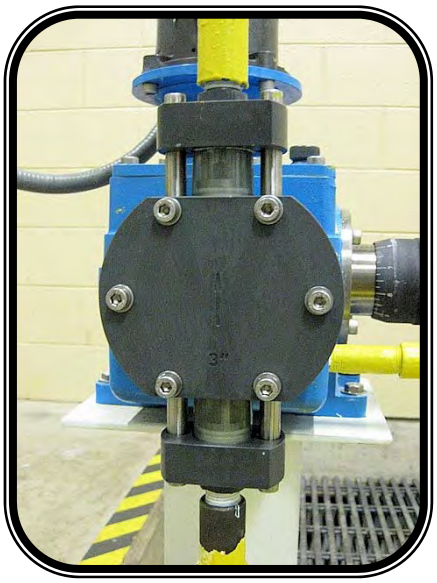
MONTHLY NEWSLETTER

March 2015

Maintenance

WTP Caustic System Maintenance

With pH balancing being a vital part of the water treatment process, it is of the utmost importance to have as much redundancy as possible in the pH control system. With a soda ash feed system as the primary means used to currently control the pH level, the caustic soda system serves as a failsafe in the event the soda ash feed system were to malfunction, while also performing the sole pH control during soda ash system maintenance events. In order to ensure reliability of the caustic backup pumps, they are tested on a monthly basis as a preventative measure to reassure proper function.



During these test cycles, it has been found that the diaphragm pump check valves tend to clog. To remedy this issue the check valves must be removed, flushed out, and reinstalled. More recently, it was decided that to increase redundancy within the caustic pumps, there should be additional check valves kept on hand as spare parts. These would provide the necessary spare parts to limit downtime in the event that the checks need to be changed out.

Upon ordering the spare check valves, a discrepancy was found in the originally installed and specified check valves. The original valve material was less compatible with sodium hydroxide than what the manufacturer recommended for the spares. This being the case, the original valves have been replaced with the updated check valves to ensure that there will be no issue with chemical compatibility. This is just another way that the water plant continues to improve upon its reliability.

Contributed by Alex Rader

Water Treatment

DCB and Backwash Tank Cleaning

Every three years, the filter backwash supply tank and the disinfection contact basin (DCB) at the Nelson-Flanders Water Treatment Plant (WTP) are scheduled to be inspected and cleaned. These structures are below ground and concrete. The backwash tank supplies finished water needed for backwashing of all six filters at the WTP. The DCB is designed to allow the appropriate amount of contact time for chlorine disinfection prior to the first use customer and before being discharged to the distribution system.

The inspection and cleaning of these structures must be performed during the low flow season for the plant to function as designed. Strategic staff planning and procedure development is crucial to ensure a successful cleaning on these large structures, with each holding over 350,000 and 270,000 gallons of water respectively.

The reason for the prescribed cleaning is that over time staining and deposits form on the interior of these tanks and must be removed to ensure that the best possible quality of finished water is produced. The cleaning process consists of pumping down the selected basin/tank and then applying a diluted acid solution to the interior to remove the accumulated deposits. Once the tank has been cleaned and inspected and any repairs have been completed, a 200 mg/l solution of chlorine is applied to the interior before filling the tank with finished water. Before the process can be returned to service, a bacteriological sample is analyzed by the Water Quality Laboratory which confirms that the cleaning process has not introduced any harmful pathogens into the system.

Contributed by Mike Lee